

ABSTRAK

ANALISIS FAKTOR PENYEBAB PENURUNAN PRODUKTIVITAS PRODUK *SPAREPART* PADA PROSES *STAMPING* MENGGUNAKAN METODE FMEA DI PT CRZ

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Penurunan produktivitas merupakan salah satu masalah utama yang dihadapi oleh industri manufaktur, termasuk PT CRZ yang bergerak dalam produksi *sparepart* logam. Berdasarkan data produksi periode Januari–Maret 2025, terdapat ketidaksesuaian antara *output* aktual dan target produksi akibat tingginya *downtime*, terutama pada proses *stamping*. Penelitian ini bertujuan untuk mengidentifikasi faktor-faktor penyebab penurunan produktivitas dengan menggunakan metode *Failure Mode and Effect Analysis* (FMEA). Data penelitian diperoleh melalui wawancara, observasi, serta catatan produksi, spesifikasi mesin, dan histori *downtime*. Hasil penelitian menunjukkan bahwa *problem dies* menjadi faktor dominan penyebab *downtime* dengan total waktu sebesar 3.372 menit atau 64% dari keseluruhan periode penelitian. Identifikasi mode kegagalan pada komponen *dies* menghasilkan nilai *Risk Priority Number* (RPN) tertinggi pada *Punch Piercing* sebesar 350, diikuti oleh *Insert Punch Dies* (224), *Stopper* (120), *Spring* (120), dan *Lifter/Pilot Jig* (60). Berdasarkan analisis tersebut, disusun rencana tindakan mitigasi menggunakan pendekatan 5W1H berupa standarisasi toleransi *clearance*, SOP *dandori*, penggantian baut ber-*grade* tinggi, penggunaan *dowel pin*, serta penggantian *spring* berdasarkan umur pakai. Penerapan usulan mitigasi ini diharapkan dapat mengurangi *downtime*, menekan produk cacat, meningkatkan keandalan *dies*, serta mendukung peningkatan produktivitas pada proses *stamping* di PT CRZ secara berkelanjutan.

Kata Kunci: *Downtime*, FMEA, Produktivitas, *Risk Priority Number* (RPN), *Stamping*.

ABSTRACT

Analysis of Factors Causing Decreased Productivity of Spare Parts in the Stamping Process Using the FMEA Method at PT CRZ

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Declining productivity is one of the main problems faced by the manufacturing industry, including PT CRZ, which is engaged in the production of metal spare parts. Based on production data for the January–March 2025 period, there was a discrepancy between actual output and production targets due to high downtime, especially in the stamping process. This study aims to identify the factors causing the decline in productivity using the Failure Mode and Effect Analysis (FMEA) method. The research data was obtained through interviews, observations, as well as production records, machine specifications, and downtime history. The results showed that die problems were the dominant factor causing downtime, with a total time of 3,372 minutes or 64% of the entire research period. The identification of failure modes in die components resulted in the highest Risk Priority Number (RPN) value for Punch Piercing at 350, followed by Insert Punch Dies (224), Stopper (120), Spring (120), and Lifter/Pilot Jig (60). Based on this analysis, a mitigation action plan was developed using the 5WIH approach in the form of standardizing clearance tolerances, SOPs, replacing high-grade bolts, using dowel pins, and replacing springs based on their age. The implementation of these mitigation proposals is expected to reduce downtime, reduce defective products, improve die reliability, and support sustainable productivity improvements in the stamping process at PT CRZ.

Keywords: *Downtime, FMEA, Productivity, Risk Priority Number (RPN), Stamping.*